BEFORE THE

PUBLIC SERVICE COMMISSION OF WISCONSIN

Application of American Transmission Company, as an Electric Public Utility, to Construct a New 138 kV Transmission Line From a New Substation in Fitchburg, to be Called the Oak Ridge Substation, to the Existing Wisconsin Power and Light Company Verona Substation in Verona, All in Dane County, Wisconsin

137-CE-146

FINAL DECISION

Introduction

On December 28, 2006, American Transmission Company LLC and ATC Management Inc. (collectively ATC) filed an application for its Fitchburg-Verona Transmission Project (Fitchburg-Verona Project). ATC proposes to construct in the city of Fitchburg and place in operation a new substation, called the Oak Ridge Substation, and also proposes to construct and place in operation about six miles of new 138 kilovolt (kV) transmission line from the new substation to the existing Verona Substation in the city of Verona. All construction would occur in Dane County, Wisconsin.

The Certificate of Public Convenience and Necessity (CPCN) application is GRANTED subject to conditions.

On January 29, 2007, the Commission determined ATC's CPCN application to be complete pursuant to Wis. Stat. § 196.491(3)(a)2. Wis. Stat. § 196.491(3)(g) requires that the Commission take final action within 180 days after it finds a CPCN application complete unless the Commission receives an extension from Dane County Circuit Court. On May 14, 2007, the Dane County Circuit Court granted the Commission a 180-day extension. The Commission must

take final action on or before January 24, 2008, or the application is approved by operation of law.

Parties to the proceeding included ATC, Madison Gas and Electric Company (MGE), Wisconsin Power and Light Company (WP&L), Wisconsin Public Power Incorporated (WPPI), the city of Fitchburg (Fitchburg), Citizens for Responsible Energy (CRE), and the Hillside Heights Neighborhood Association (Hillside). Pre-hearing conferences were held on May 7, 2007, and May 17, 2007. CRE subsequently withdrew from being a party in the case on June 27, 2007. The parties are included in the Service List, which is Attachment A.

The Commission held public and technical hearings on this project on two different days. Public sessions of the hearing were held in Fitchburg on Monday afternoon and evening, September 24, 2007. At the public sessions, the Commission received both oral and written testimony from members of the public. Persons who appeared and testified were listed in the hearing record, and all submitted written public testimony was entered into the record as exhibits. Electronically-filed comments were also received in the record as exhibits. A technical session of the hearing was held on October 2, 2007. ATC, MGE, WP&L, WPPI, Fitchburg, and Hillside appeared and presented testimony. ATC, MGE, WP&L, WPPI, Fitchburg, and Hillside submitted briefs to the Commission on October 31, 2007. These parties, with the exception of WPPI, also submitted reply briefs on November 12, 2007.

The Commission conducted its hearings as Class 1 contested case proceedings, pursuant to Wis. Stat. §§ 196.491(3)(b) and 227.44. Each commissioner deciding this matter read the record of proceedings. The Commission discussed the record on this matter at its January 15, 2008, open meeting.

Findings of Fact

1. ATC is a public utility engaged in rendering electric transmission service in Wisconsin, pursuant to Wis. Stat. §§ 196.01(5)(a) and 196.485.

2. The facilities approved in this Final Decision are necessary to provide adequate and reliable service to present and future electric customers.

3. The facilities approved in this Final Decision will adequately address the present needs of ATC's electric system and are necessary to satisfy the reasonable needs of the public for an adequate supply of electrical energy.

4. The facility designs, locations, and route approved in this Final Decision are in the public interest considering alternative sources of supply, alternative locations or routes, individual hardships, engineering, economic, safety, reliability, and environmental factors.

5. The approved transmission line route uses existing utility and other rights-of-way (ROW) to the extent practicable, and the routing and design of the facilities approved in this Final Decision minimize environmental impacts in a manner that is consistent with achieving reasonable electric rates.

6. The facilities approved in this Final Decision will not have undue adverse impacts on environmental values such as ecological balance, public health and welfare, historic sites, geological formations, aesthetics of land and water, and recreational use.

7. Construction and operation of the facilities at the estimated cost will not impair the efficiency of ATC's service, will not provide facilities unreasonably in excess of probable future requirements and, when placed in operation, will not add to the cost of service without proportionately increasing the value or available quantity thereof.

8. The facilities approved by this Final Decision will not unreasonably interfere with the orderly land use and development plans for the area.

9. The facilities approved by this Final Decision will not have a material adverse impact on competition in the relevant wholesale electric service market.

10. Energy conservation, renewable resources, or other energy priorities listed in Wis. Stat. §§ 1.12 and 196.025 are not cost-effective, technically feasible, or environmentally sound alternatives to the proposed facilities.

11. The approved transmission line routes utilize priority siting corridors listed in Wis. Stat. § 1.12(6) to the greatest extent feasible, consistent with economic and engineering considerations, reliability of the electric system, and protection of the environment.

Conclusions of Law

The Commission has jurisdiction under Wis. Stat. §§ 1.11, 1.12, 44.40, 196.02, 196.025, 196.395, and 196.491 and Wis. Admin. Code chs. PSC 4 and 111 to issue a CPCN authorizing ATC to construct and place in operation the proposed electric transmission facilities described in this Final Decision, subject to the conditions stated in this Final Decision.

Opinion

Introduction

The Commission has a statutory responsibility to ensure that electric service to Wisconsin citizens is safe, adequate, and reliable at a reasonable cost and with a minimum of undue adverse environmental impacts. ATC proposed the Fitchburg-Verona transmission line project to support electrical transmission and distribution utilities in southern Dane County and northern Green County. ATC proposed the Oak Ridge Substation to address the need to support energy

distribution directly in MGE's service area in Fitchburg. The size of the proposed project, in transmission voltage and miles of transmission line, requires a CPCN from the Commission under Wis. Stat. § 196.493(3) and an Environmental Assessment (EA) as part of the Commission's environmental review under Wis. Stat. § 1.11 and Wis. Admin. Code ch. PSC 4.

The Commission's proceeding developed an extensive record on the issues in this case. The record includes a hearing transcript of nearly 700 pages and more than 100 exhibits. The Commission granted funds for intervenor compensation to Hillside, which provided three expert witnesses. Testimony from witnesses at the technical hearing and public at the public hearings, including written comments, thoroughly address the issues to be considered by the Commission in reviewing this application.

Project Need

Under Wis. Stat. § 196.491(3)(d)2., in order to grant a CPCN for the project, the Commission must find that the proposed project satisfies the reasonable needs of the public for an adequate supply of electric energy.

The electric distribution utilities (also referred to as Load Serving Entities or LSEs) serving the project area include MGE and WP&L. WPPI supplies wholesale electric service to the city of Stoughton in this area. ATC provides electric transmission service to these utilities.

ATC, and intervenors MGE, WP&L, and WPPI all provided testimony that the line is needed to serve existing load, and that projected future electric demand growth requires expanded capacity of the transmission system for southern Dane County and northern Green County. The applicant, intervening utilities, and Commission staff all provided testimony that the need for the proposed transmission line is supported by data on the existing area load and that

the proposed capacity of the transmission facility is supported by likely future growth in electric demand in this area.

Commission staff reviewed and independently analyzed the applicant's and LSE's load forecasts and testified that the load forecasts ATC used in this proceeding were reasonable for the purpose of assessing the adequacy of the existing transmission system and the need for the proposed project.

ATC serves the LSEs from its electric transmission network consisting of 69 kV and 138 kV electric transmission lines in the project area. ATC presented comprehensive need and planning studies analyzing the effects of the forecasted load growth in the project area on its area transmission system using National Electric Reliability Council (NERC) standards. The NERC standards use single contingency analysis[1] for evaluating the transmission system reliability. ATC's analysis shows that projected load growth will cause several transmission facilities to overload or suffer from low voltages under single contingency conditions as early as 2007. ATC is installing a capacitor bank and working with the LSEs for measures that they can take for alleviating voltage and overload problems in the project area until the proposed project is constructed and placed in service.

Commission staff reviewed and independently analyzed ATC's power flow modeling by verifying ATC's power flow results as well as conducting independent modeling of the existing transmission system in the project area. Commission staff analysis confirmed that in order to maintain reliable service, the project area needs a new transmission line.

[1] A transmission system should operate safely if a transmission line or equipment suddenly goes out of service ("trip"). In a single contingency analysis, the tripping of single key elements of a transmission system is modeled, and the outage effects are determined on the existing transmission system. Under NERC standards, the bus voltages should remain within 10 percent of their nominal ratings and the transmission line loadings within their emergency ratings under the single-contingency outage.

ATC's proposed project will relieve projected low voltages at the 69 kV substation buses at its Verona, New Glarus, Belleville, Monticello, South Monroe, and Brooklyn Substations, and overloading of the 69 kV transmission line from its North Monroe to Verona Substations. ATC is estimating an in-service date of December 2010 for the proposed Fitchburg-Verona Project.

The record demonstrates that the proposed facilities are needed for electric service reliability in the project area.

Energy Priorities Law

Wis. Stat. § 1.12(4), the energy priorities law, creates priorities as follows:

> **1.12 State energy policy. (4)** PRIORITIES. In meeting energy demands, the policy of the state is that, to the extent cost-effective and technically feasible, options be considered based on the following priorities, in the order listed:
>
> (a) Energy conservation and efficiency.
> (b) Noncombustible renewable energy resources.
> (c) Combustible renewable energy resources.
> (d) Nonrenewable combustible energy resources, in the order listed:
>
> 1. Natural gas.
> 2. Oil or coal with a sulphur content of less than 1%.
> 3. All other carbon-based fuels.

In addition, Wis. Stat. § 196.025(1) declares, "To the extent cost-effective, technically feasible and environmentally sound, the commission shall implement the priorities under s. 1.12(4) in making all energy-related decisions . . . ." The Commission implements the energy priorities by determining whether any higher-priority alternatives to a CPCN project would be cost-effective, technically feasible, and environmentally sound.

ATC provided data showing historic and forecasted loads at the distribution substations in the project area. The load forecasts of the distribution utilities already include consideration of demand-side management (DSM) programs and plans. Commission staff conducted an independent analysis of the feasibility of alleviating reliability problems in the study area

through additional DSM. This analysis included a review of historic DSM levels and programs and whether an appropriate amount of DSM was included by the distribution utilities in their forecast. This analysis indicates that, collectively, the distribution utilities reflect more than 22 megawatts (MW) of energy efficiency in their study area forecasts, including future utility energy efficiency of about 0.8 MW annually or about 0.4 percent of the forecasted project area peak demand in 2011. This is within the range identified by the Energy Center of Wisconsin (ECW) energy efficiency potential study.

Hillside and members of the public contend that ATC did not provide a thorough exploration of alternatives to the proposed project. They contend that energy efficiency, as part of a mix of technologies, could meet the electrical needs with less environmental degradation than the proposed transmission line.

The record does not show that DSM is a feasible cost-effective alternative to the proposed transmission line project. The distribution utilities have included substantial energy efficiency in their forecasts of the study area and have taken steps, beyond those required in 2005 Wisconsin Act 141, to increase the level of energy efficiency savings. While it is likely that there are additional energy efficiency savings to be captured, the additional energy efficiency needed to reach a zero load growth is a factor of 10 greater than the peak demand identified in the ECW energy efficiency potential study. Because the problems in the project area exist today and are currently being addressed by short-term mitigation measures, even this level of energy efficiency would not be sufficient to eliminate the need for this project.

Under the energy priorities law, energy conservation and efficiency are followed in priority by noncombustible and combustible renewable energy resources, which in turn are followed by non-renewable combustible energy resources. ATC investigated whether the

installation of diesel generators in the project area would be a feasible alternative to the proposed project. ATC estimated that eight to nine generators would be needed each year to meet customer demand in the project area. ATC concluded that the installation of diesel generators would not be a feasible alternative because of siting difficulties, air emission issues, Midwest Independent Transmission System Operator (MISO) generation interconnection requirements, and cost. Commission staff agreed with ATC's conclusion.

In addition to the proposed Fitchburg-Verona Project, ATC investigated an alternative that would replace the existing 69 kV grid in the project area with Aluminum Conductor Composite Reinforced (ACCR). The advantage of ACCR conductor compared to conventional conductor, which is typically Aluminum Conductor Steel Reinforced (ACSR), is that ACCR has greater current-carrying capability with less sag, but at greater cost. ACCR may be a viable solution in situations that would benefit from the ability to address transmission problems by using existing transmission structures. In its analysis, ATC concluded that the use of ACCR conductor could address the thermal overload problems, but it would not address low voltage problems in the project area. Commission staff concurred with ATC's conclusion that the use of ACCR conductors for the 69 kV grid in the project area would not be a viable alternative to the proposed project.

Electric System Alternatives

Under Wis. Stat. § 196.491(3)(d)3., in order to grant a CPCN for the project, the Commission must find that the proposed project is in the public interest considering alternative sources of supply and engineering, economic, safety, and reliability factors.

ATC conducted load flow studies using power flow models to analyze several possible transmission line solutions to the transmission problems identified in the project area. As a result

of its analysis, which addressed electrical performance and cost, ATC chose to apply for the Fitchburg-Verona Project which entails the construction of a new Oak Ridge Substation near the intersection of Fish Hatchery Road and Irish Lane, with an interconnection to one circuit of the existing double-circuit 138 kV Fitchburg-Kegonsa transmission line, and the construction of a new 138 kV transmission line connecting the Oak Ridge Substation with the Verona Substation located at the intersection of County Trunk Highway (CTH) M and CTH PB in the city of Verona. Proposed substation sites and transmission line routes are addressed in more detail in subsequent sections of this Final Decision.

Commission staff reviewed and independently analyzed ATC's proposed alternatives for electrical performance and cost. Commission staff also analyzed several other transmission solutions including a new 138 kV transmission line connecting the Verona and Fitchburg McKee Road Substations using existing ROW along CTH PD and U.S. Highway (USH) 18/151; and several configurations involving rebuilding to 138 kV operation and double-circuiting the existing 69 kV transmission line (designated as line Y119) connecting the Kegonsa, Oregon, and Verona Substations. Commission staff's analysis shows that these other possible solutions would provide comparable electrical performance with ATC's proposed project in meeting the transmission system needs in the project area. However, the cost of these possible solutions would be substantially greater than the cost of ATC's proposed alternatives.

Potential Impacts on Wholesale Competition

Wis. Stat. § 196.941(3)(d)7. requires the Commission to find that a "proposed facility will not have a material adverse impact on competition in the relevant wholesale electric service market" before it can approve any CPCN application.

This issue was not substantially contested. Commission staff testified that a transmission line that expands transfer capability will facilitate commerce and promote, not adversely affect, competition in electric markets. The Commission concurs that this project will not have a material adverse impact on competition in the relevant wholesale service market.

Routing Process

ATC's transmission routing process complied with Wis. Stat. §§ 1.12(6) and 196.025(1m). ATC adequately documented a process that included: extensive coordination, both pre-application and post-application, with Commission staff, the Department of Natural Resources (DNR), and the Department of Transportation (DOT); a public review phase that included public information meetings in July and November 2005 and June and September 2006; and detailed environmental studies. All existing linear utility and transportation corridors were investigated as potential routes, and the routes presented in the application follow existing corridors for the majority of their lengths.

The ATC-proposed line routing depends in part on the choice of a site for the proposed Oak Ridge Substation. ATC proposed three substation sites, and its transmission routes are designed to connect each of those sites to the existing 138 kV Fitchburg-Kegonsa transmission line and then to an expanded portion of the existing Verona Substation.

Proposed Substation Sites

ATC's three proposed sites for the Oak Ridge Substation are all located in the vicinity of the intersection of Fish Hatchery Road and Irish Lane in the city of Fitchburg. One site, labeled by Commission staff as the Irish Lane Site, is located on the north side of Irish Lane just east of the intersection. Another, labeled by Commission staff as the Mandt Site, is located on the

Mandt farm property west of the intersection and north of the line that would be a westward extension of Irish Lane. The third, labeled by Commission staff as the City Site, is located on city property west of the intersection and just south of the line that would be a westward extension of Irish Lane. The three ATC-proposed sites are all in the same general environmental landscape, one on an abandoned garden company property, one on an existing crop field, and one on city land just south of the crop field. ATC prefers the City Site, and has proposed its routes to a substation at this site, but the Commission notes that the route segments provided can connect any of the three sites to the existing 138 kV transmission line and the Verona Substation expansion.

Proposed Transmission Line Routes – Adams and Whalen Routes

ATC proposed two routes for the proposed Fitchburg-Verona transmission line in its application, including two optional transmission connections between the proposed Oak Ridge Substation and the existing ATC Fitchburg-Kegonsa 138 kV line. One route between the substations runs mainly along Fish Hatchery Road and Adams Road and is referred to as the Adams Route. The other route between the substations runs mainly along Whalen Road and part of the Verona bypass (USH 18/151) and is referred to as the Whalen Route. ATC's proposal combines the Adams Route with a connection to the existing 138 kV line along Fish Hatchery Road, Segments 59a, 59b and 84.[2] ATC's proposal combines the Whalen Route with a connection to the existing 138 kV line through the Mandt farm property, Segments 58a and 58b1.

[2] All references to transmission route segments are based on segment designations as shown in Exhibit 2.

The Adams Route is comprised of Segments 59a and 59b along Fish Hatchery Road, Segment 84 west from Fish Hatchery Road to loop behind the Oak Ridge Substation at the City Site, Segment 58b2 between the Mandt property and the city property south from the City Site to Whalen Road, Segment 49 to the east to Fish Hatchery Road, and Segments 48, 44, 40, 78, 79, 83, and 82 along Fish Hatchery Road, Adams Road, and CTH M to the Verona Substation, a total of about 6.21 miles.

The Whalen Route is comprised of Segments 58a and 58b1 through the Mandt farm property parallel to and about 550 feet west of Fish Hatchery Road, Segment 84 east to Fish Hatchery Road beyond the Oak Ridge Substation at the City Site, Segment 60 along Fish Hatchery Road to Whalen Road, and Segments 49, 50, 51, 52, 80, 81, and 82 along Whalen Road and USH 18/151 to the Verona Substation, a total of about 5.58 miles.

Both of the routes almost entirely follow existing roadway corridors and existing distribution or transmission lines and their development has been consistent with the policy directives of Wis. Stat. § 1.12(6) for the siting of transmission lines. The routes are further similar for their limited impact on natural resources of the area.

Other Proposed Transmission Facilities

In addition to the proposed transmission line and sites for the Oak Ridge Substation, the project would include electrical work inside the fence of the existing Kegonsa Substation and new construction outside of the fence of the existing Verona Substation. These proposed facilities do not appear to involve any significant adverse environmental or social impacts.

Permits and Approvals

ATC will not need DNR permits under Wis. Stat. ch. 30. Although the transmission line will cross a tributary to Lake Harriet, ATC does not propose to place a structure in or a bridge across the waterway. Depending on the route selected for the connection between the existing 138 kV line and the new substation, the project could require a DNR water quality certification for the placement of fill in wetland to accommodate one structure associated with the Oak Ridge Substation on the City Site. ATC states that it expects to obtain any necessary storm water discharge permitting pursuant to Wis. Stat. ch. 283 and Wis. Admin. Code ch. NR 216. Because land-disturbing activities at the Oak Ridge Substation site and Verona Substation expansion will exceed one acre, ATC will have to develop and implement a detailed erosion control plan pursuant to Wis. Admin. Code chs. NR 216 and NR 151. The project is not expected to have any impact on listed endangered, threatened, or special concern species. Although the transmission route will cross the future Badger State Trail, the line and ROW are not expected to affect the trail.

No impacts are expected on any archeological or historic properties inventoried with the Wisconsin Historical Society (WHS), and accordingly Commission consultations with WHS are not needed pursuant to Wis. Stat. §44.40.

The Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) Agricultural Impact Program has determined that an Agricultural Impact Statement does not need to be prepared for either the substation construction or the transmission ROW.

The DOT Bureau of Aeronautics has indicated that the expansion of the Verona Substation and nearby transmission structures require notifications to DOT and the Federal

Aviation Administration. The Bureau indicated that it expects determinations of no hazard to air navigation for the substation and transmission structures.

ATC has indicated that it will apply for local permits and other authorizations governed by local ordinances that involve matters of public security, including road crossings, road weight limits, construction noise abatement, and pertinent building permits. ATC indicates that it will not apply for permits or authorizations that would govern substation siting, transmission route selection, land use, recreational use, or aesthetics because these factors are already covered by the Commission's statutory authority in the issuance of a CPCN for the project.

Wisconsin Environmental Policy Act (WEPA)

Under Wis. Stat. § 1.11, the Commission must consider the environmental impact of a proposed action such as a CPCN application to construct a high-voltage transmission line. Under the Commission's rules implementing that statutory provision, the Commission must prepare an EA that provides a "factual investigation of the relevant areas of environmental concern in sufficient depth to permit a reasonable informed preliminary judgment of the environmental consequences of the proposed action." Wis. Admin. Code § PSC 4.20(1). An EA must include a recommendation about whether a proposed action is a major action significantly affecting the quality of the human environment and whether the project review requires an environmental impact statement (EIS). Wis. Admin. Code § PSC 4.20(1).

In developing its recommendation, the EA must consider, among other things, significant controversy associated with the proposed action. The EA must also contain an evaluation of the reasonable alternatives to the proposed action. The EA provides this evaluation and includes consideration of the potential impacts of a substation site and transmission route proposed by Hillside during this proceeding, after the application was deemed complete.

The Commission notified landowners along the proposed transmission line routes and other potentially interested members of the public, by a letter dated February 7, 2007, that an EA would be prepared for the Fitchburg-Verona Project application. Based on the draft EA prepared by Commission staff, the Commission's WEPA coordinator issued a preliminary determination on September 24, 2007, that no significant environmental impacts on the human environment were likely to occur with the project, and that preparation of an EIS was not required. Following the required comment period on this finding of no significant impact, the EA was finalized and signed on October 15, 2007. No EIS was required or prepared.

Public Health and Welfare

Under Wis. Stat. § 196.491(3)(d)4., the Commission must consider whether granting or denying a CPCN application for a high-voltage transmission line and substation will promote the public health and welfare. Considering the public need for greater transmission capacity in the area served by the proposed facilities, together with the other elements of ATC's Fitchburg-Verona Project found in the record of this proceeding, including the conditions imposed by this Final Decision, the Commission finds that issuing a CPCN will promote public health and welfare. This project will facilitate a more reliable electric transmission system than currently exists and will support services and businesses in the area, such as medical clinics, daycare facilities, retirement homes, food stores, and high-tech businesses and facilities.

Commission staff testified that negative effects of this project on the environment are not expected to be significant. The public expressed concern in their testimony and comments about the effects of electric and magnetic fields (EMF). Several of the homeowners near substation sites or along transmission routes are concerned about the effects of EMF on their families' health. EMF is created by the flow of electric current through a conductor and is present

everywhere electricity is used—in houses, cars, and the workplace, as well as under transmission lines. EMF decreases with distance from the source. After more than two decades of research to determine the health effects of EMF associated with transmission lines, some epidemiological studies have shown a weak association between EMF and human disease. Laboratory studies on cells and animals have not demonstrated any relationship or indicated any mechanism by which exposure to magnetic fields could trigger disease. The Commission will continue to monitor research, and to require utilities to provide data on existing and estimated fields, and to design low-EMF structures.

As part of its application, ATC provided design diagrams of proposed transmission lines and structures for specific segments of the proposed routes. The filings also included calculations of anticipated EMF levels for 2009, and for the year 2019. Generally, the estimated magnetic fields from the transmission lines drop to ambient background levels within 200 to 300 feet of the transmission centerline. ATC uses structure designs that minimize the creation of EMF.

Impact on Local Land Use Plans of the City of Fitchburg

The law governing an application for a CPCN requires consideration of a proposed project's effect on a community's land use plans. The Commission must specifically determine that the "proposed facility will not unreasonably interfere with the orderly land use and development plans for the area involved." Wis. Stat. § 196.491(3)(d)6. (emphasis supplied)

Fitchburg and Hillside contend that the proposed substation sites will unreasonably interfere with Fitchburg's Land Use Plan of 1995, and that overhead transmission lines conflict with the city's policy of undergrounding electrical lines. The Land Use Plan, according to Fitchburg, looks to preserve the rural nature of Fitchburg, while facilitating development only in

defined areas. Fitchburg claims that the Land Use Plan does not allow urban development in the area of the proposed sites, and that a substation with overhead lines will conflict with the rural nature of the area, as well as a future park, referred to as the Moraine Edge Park, that may be created sometime in the future.

In considering whether the Fitchburg-Verona Project would unreasonably interfere with Fitchburg's Land Use Plan, the Commission notes the critical need for this project in order to improve the reliability of the electric system for Fitchburg and the rest of the project area in southern Dane County and northern Green County. Multiple alternatives to meeting this need were investigated by ATC and independently investigated by Commission staff.

Commission staff in its investigation of the proposed sites and routes found no unreasonable interference by the project with Fitchburg's land use plans. The Commission notes that the record shows the proposed substation sites are located in the vicinity of a busy road and municipal buildings, including a salt storage unit. Moreover, the project will not unreasonably interfere with the development of a Moraine Edge Park. This park is simply a concept at this time for an urban park that may be bordered by the Oak Ridge Substation site.

The proposed project represents the most efficient way to meet this area's electrical needs with the fewest impacts and least cost to ratepayers. Moreover, Fitchburg's Land Use Plan calls for the provision of public services to meet the needs of its growing community, and in particular, to support future economic development. This project will support, not interfere with, those goals. Further, while Fitchburg may have a policy of undergrounding electrical lines, undergrounding the proposed transmission line is prohibitively expensive and cannot be justified based on aesthetics alone. Accordingly, the Commission finds that the proposed

Fitchburg-Verona Project does not unreasonably interfere with the Fitchburg Land Use Plan within the meaning of Wis. Stat. § 196.491(3)(d)6.

Alternatives, the Public Interest, and Potential Environmental Impacts

Wis. Stat. § 196.491(3)(d)3. requires the Commission to make a determination about whether the proposed project is in the public interest considering, among other things, alternative routes, alternative locations, and environmental factors.

Under Wis. Stat. § 196.491(3)(d)4., the Commission must consider whether "the proposed facility will have undue adverse impact on other environmental values such as, but not limited to, ecological balance, public health and welfare, historic sites, geological formations, the aesthetics of land and water, and recreational use." The Commission notes that the record primarily concerns potential effects on property values and human health. Few natural or recreational resources are affected. Both routes are similar with respect to environmental impacts, community impacts, engineering, and cost considerations of a transmission line.

Both proposed transmission line routes require approximately an additional 43 feet of ROW. Both routes have agriculture as the primary land use and have some rural residences not associated with agricultural operations.

Along both routes, most of the native habitat has already been destroyed or significantly altered by farming, development, and road ROW maintenance. There are few woodlots and wetlands along either route. A representative from DNR testified that neither the Adams nor Whalen Routes require permits under Wis. Stat. § 30.025. The Adams Route crosses an unnamed tributary to Lake Harriet but would require no construction or machinery within its banks or within the wetland around it. Construction is not expected to have any significant impact on the tributary or any other floodplain. Depending on how the new substation is

connected to the existing 138 kV line, the project could require a DNR water quality certification for the placement of fill in a wetland, if a transmission structure is placed in the wetland adjacent to the City Site.

Neither route would require an archeological survey or habitat and species surveys prior to construction.

Members of the public raised aesthetic concerns about the Whalen Route, which would run near an established residential development near the Whalen Road-Fish Hatchery Road intersection and require some trimming of residential woodlands on Whalen Road.

It is reasonable for ATC to work with each landowner to minimize potential impact on his or her property. For example, regardless of route, it would be appropriate to remove or trim as few trees as possible, but trees in the ROW would have to be removed. Some trees are likely to be oaks, and the pruning or removal of oak trees could contribute to the spread of oak wilt. To minimize any risk, ATC must avoid pruning or removing oak trees from April 15 to July 1, when the fungus that causes oak wilt most commonly reproduces and the beetles that spread the fungal spores are active.

There are no churches, hospitals or nursing homes within 300 feet of either route. There is one daycare facility located within 300 feet of the Adams Route along Fish Hatchery Road.

Under Wis. Stat. § 196.491(3)(d)3., the Commission must consider that the design or route for the project is in the public interest considering, among other things, individual hardships. In a transmission case such as this one, the most frequently anticipated individual hardship is the potential loss of property value for the local landowner. While acknowledging the hearing testimony of Mr. Philip Sveum for Hillside, the Commission notes that there is no consensus on the impact of electric transmission lines on property values. Studies have found

the effects to vary from no reduction in property value to a possible reduction of up to 23 percent. Studies have generally found that any effect on residential property values diminishes with distance from the transmission line, with no significant change in property value 500 feet from the proposed line. Any diminution of property value that might occur would diminish over time as the areas adjacent to the transmission line become more mature.

Although much of the transmission routes run in agricultural land, hardships associated with agricultural impacts of this project would be temporary. ATC has minimized potential effects by choosing routes that follow existing road ROW. Construction could also take place during winter months, particularly in frozen conditions. This greatly reduces potential interference with cropping patterns, and also reduces potential effects from soil compaction and erosion during construction. Farming operations on the ROW easement would be able to continue after construction.

Allen Proposal for Siting of the Oak Ridge Substation and Routing of the Transmission Lines

Fitchburg Alderperson Mr. Jay Allen testified on behalf of Hillside to propose a substation site and routing option in addition to those offered by ATC in its application. Mr. Allen proposed that a distribution-only MGE substation be constructed in the Fitchburg Technology Campus (FTC) instead of the combined distribution/transmission Oak Ridge Substation at one of the sites offered by ATC; that all electrical lines into the FTC substation be undergrounded; and further, that the 138kV transmission line be routed from the existing Fitchburg Substation to the Verona Substation along CTH PD and Verona Road (USH 18/151) rather than from the new Oak Ridge Substation to Verona. Fitchburg, Hillside, and many members of the public who testified and commented on this project, support this proposal. The parties to this proceeding agree that if the Commission were to find that this proposal should be

further investigated by ATC, then the pending application would need to be denied with the direction that ATC investigate the FTC Site and Verona Road Route in submitting a new application.

The Commission determines, however, that the Allen proposal does not amount to a viable option warranting additional investigation. The FTC Site itself presents major siting issues, including an owner who may not be a willing seller, unplatted land, and increased costs because of its location together with the request of Fitchburg and Hillside for undergrounding. Similarly, a Verona Road Route as suggested in the Allen proposal greatly increases this project's costs because of the need to underground the entire route, as well as greater potential environmental impacts than the proposed Adams or Whalen Routes. Moreover, public notification of this proposal was not made during the pre-application and environmental review process, so the extent of public opposition to this site and a Verona Road route, particularly by landowners near the FTC Site and along Verona Road, is unknown.

Siting a substation in the FTC is not new with the Allen proposal, but rather an option that was considered and repeatedly rejected in the last few years by Fitchburg, ATC, and MGE for the same reasons as discussed above. Fitchburg's ad hoc committee, which now supports the Allen proposal, first considered it in 2006 and decided to support the City Site. Further, in order for the FTC Site to be properly investigated and vetted with the local public, the pre- and post-application review process required in a CPCN case would need to start over, thus resulting in additional years of administrative process. As a result of the consequent delay in building the critically-needed transmission line and substation, MGE and WP&L, as distribution utilities, would need to employ the use of multiple portable diesel generators in the project area as a stopgap measure, costing ratepayers millions of dollars for the delay alone.

The Commission declines to deny the pending CPCN application in order to restart the CPCN process for the Allen proposal. In reaching this finding, the Commission considered the exhaustive public process that has already gone into this relatively small project, the potential system reliability crisis in this area if the project does not get built soon, with the consequent economic damage to the communities from a long delay, and finally the apparent drawbacks of the FTC Site and Verona Road Route when compared to the existing proposed project.

Selected Substation Site and Transmission Route

After considering the many factors required by Wis. Stat. § 196.491(3)(d), the Commission concludes that the City Site is the most appropriate location for the Oak Ridge Substation and that the Adams Route is the most appropriate route for the proposed transmission line between that new substation and the Verona Substation.

None of the proposed substation sites present significant potential for adverse environmental impacts. The sites are equally buildable, and similar in cost and electrical impact. The City Site appears to be the least objectionable location for the landowners in the three nearby neighborhoods. Fitchburg has agreed to terms for the sale of the property and indicated that, of the three proposed sites, the City Site is the best. The Adams Route follows a major Fitchburg road to move the line further to the south away from the Fitchburg urban service center, while the Whalen Route follows a narrower town road for some distance before connecting with a road in Verona. The Adams Route and the Whalen Route present minor differences in engineering needs, but the project can be constructed on either route. The Adams Route costs less because there are savings associated with rebuilding the aging 69 kV line now running along Adams Road and CTH M. The Adams Route also passes fewer homes within 100 feet of the centerline than the Whalen Route, and would require fewer ornamental trees to be removed. These

comparisons make the Adams Route the more reasonable choice and, as a result, is the approved route between the Oak Ridge and Verona Substations.

ATC modified the Adams Route post-application so that the route connects to the City Site as its preferred site for the proposed Oak Ridge Substation. The Adams Route, as modified, runs from a tap of the existing 138 kV Fitchburg-Kegonsa line southward along the west side of Fish Hatchery Road, Segments 59a and 59b, and turns westward at the city property line to enter the substation, Segment 84. This would require placing one transmission structure in the small wetland between the City Site and Fish Hatchery Road. This modification would also place tall structures along Fish Hatchery Road north of the substation and result in the removal of roadside trees. The corresponding section of the Whalen Route would make the tap inland from Fish Hatchery Road with the line running due south, Segments 58a and 58b1, to the City Site, avoiding the need for a structure in the wetland or for the removal of roadside trees. It would also put the connection route in line with the continuing route south of the substation to Whalen Road, Segment 58b2.

The connector segments for both the Adams and Whalen Routes described above are permissible sections allowing the transmission line to tap into the existing 138 kV Fitchburg-Kegonsa line. The Commission accordingly approves Segments 58a and 58b1 of the Whalen Route and Segments 59a, 59b, and 84 of the Adams Route. ATC shall consult with Fitchburg to determine which connection segment will be constructed. Within 30 days from the issuance of this Final Decision, ATC shall inform the Commission which segment will be built.

The Commission also concludes that the work within the fence of the Kegonsa Substation and the expansion of the Verona Substation are necessary and in the public interest.

Costs

The estimated cost in 2009 dollars of constructing the proposed project on the selected route and substation site is shown below:

Description		**Cost**
Transmission Line		
138 kV Double-Circuit to Oak Ridge Facilities	$767,700	
Oak Ridge-Verona 138 kV Facilities	$4,933,100	
Land/Land Rights	$2,525,000	
ATC Distribution Underbuilt Transfer Costs	$91,700	
Sub-total, Transmission Line Capital Cost		**$8,317,500**
Oak Ridge Facilities	$3,521,600	
Land/Land Rights	$566,000	
Verona Facilities	$3,981,400	
Verona Common Facilities Payment to Alliant	$450,000	
Fitchburg Facilities	$86,500	
Sub-total, Substation Capital Cost		**$8,605,500**
Total Capital Cost		**$16,923,000**
Removal		**$288,300**
Expenses[3]		**$1,650,000**
Total Project Cost		**$18,861,300**

Induced Voltage Study

Final design of the proposed transmission line on the approved route will involve the consideration of placing existing distribution lines either on the new transmission structures below the transmission conductors (referred to as "underbuild"), overhead on the opposite side of the roadway, or underground on either the same or opposite side of the roadway. An issue that needs to be addressed before final design is the potential for the transmission conductors to

[3] Includes expenses for preliminary project design, environmental review, and application preparation and processing.

induce voltage onto the neutral conductor of the distribution circuit on segments where the distribution circuit is underbuilt onto the transmission line structures.

ATC has conducted a study to predict the magnitude of this induced voltage for applicable design configurations and has committed to use the results in determining final design of the transmission line relative to existing distribution lines along the selected route. This study is pending the Commission's consideration and final resolution in docket 137-CE-121.

As a condition of its approval, the Commission requires ATC to incorporate the conclusions of the study into the final design of the approved transmission line.

This Final Decision shall take effect on the date of mailing.

Certificate

The Commission grants ATC a CPCN for construction of the Fitchburg-Verona project as described in this Final Decision. Under this CPCN, ATC may construct a new Oak Ridge Substation and a new 138 kV transmission line between the Oak Ridge and Verona Substations along with associated facilities as described in ATC's application and this Final Decision. The estimated cost of the authorized facilities is $18,861,300.

Order

1. The facilities authorized to be constructed are those described in ATC's CPCN application and subject to the conditions specified in this Final Decision.

2. The approved site for the Oak Ridge Substation is the City Site.

3. The approved Fitchburg-Verona Project transmission line route consists of Segments 58b2, 49, 48, 44, 40, 78, 79, 83, and 82.

4. ATC shall report to the Commission within 30 days its determination of the route selected for the interconnection of the Oak Ridge Substation with the Fitchburg-Kegonsa 138 kV transmission line.

5. ATC shall work with landowners to minimize impacts of line placement and construction.

6. ATC shall avoid pruning or removing any oak trees from April 15 to July 1.

7. ATC shall implement all of the techniques to mitigate impacts to farmland as referenced in the project application and this Final Decision.

8. ATC shall incorporate the results of its Induced Voltage Study into the final design of the authorized transmission line.

9. ATC shall submit to the Commission the date that it commences construction and the date that the facilities are placed in service. ATC shall submit quarterly progress reports to the Commission indicating the project's major construction and environmental milestones, the extent of the physical completion to date, and the expenditures to date by line item. In addition, once each year ATC's quarterly progress report shall include a revised total cost estimate for the project.

10. This authorization is for the specific project as described in this Final Decision and at the stated cost. Should ATC's plans for the scope, design, or location of the project change significantly, or if the cost estimate for the project increases by more than 10 percent, ATC shall promptly notify the Commission.

11. Upon completion of the project, ATC shall notify the Commission and report the actual costs segregated by plant account and comparable to the cost breakdown of the

application. For any account or category where actual cost deviates significantly from those authorized, the final cost report shall itemize and explain the reasons for the deviation.

12. After construction, ATC shall identify the location of each transmission structure using global positioning system technology and transfer this data to a geographic information systems database, using software compatible with state government standards, and shall submit this information to the Commission.

13. This CPCN is valid only if construction commences no later than one year after the date this Final Decision is mailed.

14. Jurisdiction is retained.

15. This Final Decision is effective the date of mailing.

Dated at Madison, Wisconsin, January 23, 2008

By the Commission:

for Sandra J. Paske
Secretary to the Commission

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See attached Notice of Appeal Rights

Notice of Appeal Rights

Notice is hereby given that a person aggrieved by the foregoing decision has the right to file a petition for judicial review as provided in Wis. Stat. § 227.53. The petition must be filed within 30 days after the date of mailing of this decision. That date is shown on the first page. If there is no date on the first page, the date of mailing is shown immediately above the signature line. The Public Service Commission of Wisconsin must be named as respondent in the petition for judicial review.

Notice is further given that, if the foregoing decision is an order following a proceeding which is a contested case as defined in Wis. Stat. § 227.01(3), a person aggrieved by the order has the further right to file one petition for rehearing as provided in Wis. Stat. § 227.49. The petition must be filed within 20 days of the date of mailing of this decision.

If this decision is an order after rehearing, a person aggrieved who wishes to appeal must seek judicial review rather than rehearing. A second petition for rehearing is not an option.

This general notice is for the purpose of ensuring compliance with Wis. Stat. § 227.48(2), and does not constitute a conclusion or admission that any particular party or person is necessarily aggrieved or that any particular decision or order is final or judicially reviewable.

Revised 9/28/98

APPENDIX A

In order to comply with Wis. Stat. § 227.47, the following parties who appeared before the agency are considered parties for purposes of review under Wis. Stat. § 227.53.

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(Not a party but must be served)
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